

**PROPOSED AMENDMENTS TO THE CLAIMS****Claims Pending:**

- Amended Claims: Claim 1
- Others Suggest Claim Amendments 8, 17, and 27

**1. (Currently Amended) A method, comprising:**

receiving a request to add a new filter to a filter table stored in an inverse query engine cache;

adding the new filter to the filter table, wherein the new filter comprises a condition field, a data field, an expiration time field, a filter weight field, ~~or~~ and a permanent flag field;

determining the filter table of a bounded size;

maintaining the inverse query engine cache at or below a maximum cache size, wherein the size of the inverse query engine cache may be indicated by size of the filter table, estimate of size of the filter table, or by cache usage;

wherein the inverse query engine cache comprises at least one of an add filter module, a remove filter module, a matcher, a maintainer, a filter table, a most recently used list, or an expiration list;

wherein if the inverse query engine cache includes an expiration list, wherein the expiration list comprises a filter identifier including an expiration value in an expiration field;

removing a filter based on an expiration time; and

trimming the filter table; and

wherein removing the filter and trimming the filter table occurs when the filter table reaches a size exceeds a maximum weight;

wherein removing the filter and trimming the filter table reduces a number of filters stored in the filter table such that the cache is reduced to an optimal size;

~~wherein the inverse query engine cache is used exclusively by an inverse query engine to store filters associated therewith.~~

wherein setting a permanent flag overrides removing the filter and trimming the filter table.

8. (To be Amended) A system, comprising:

an inverse query engine configured to test an input against a collection of filters;

cache associated with the inverse query engine, wherein the inverse query engine cache comprises at least one of an add filter module, a remove filter module, a matcher, a maintainer, a filter table, a most recently used list, and an expiration list;

a the filter table stored in the cache and containing multiple filters, wherein the new filter comprises ~~at least one of~~ a condition field, a data field, an expiration time field, a filter weight field, ~~or~~ and a permanent flag field; and

a maintainer configured to maintain a size of the filter table within definite cache bounds, wherein the maintainer removes a filter based on an expiration time from the cache and trims the cache;

wherein the size of the filter table may be indicated by size of the filter or by weight of the filter.

17. (To be Amended) One or more computer-readable storage media storing computer-executable instructions that, when executed on a computer, perform the following steps:

receiving a request to add a new query to an inverse query engine cache that stores multiple queries, each query having a query size associated therewith;

defining conditions and processing input that satisfies the conditions;

deriving a cache size that is a sum of query sizes of the queries stored in the inverse query engine;

determining if the cache size is at greater than or equal to a maximum cache size, wherein the cache size may be determined comprising cache usage, size of the query, or estimate of size of the query;

removing one or more queries from the inverse query engine cache if the cache size is greater than or equal to the maximum cache size;

deducting the query size of each query removed from the cache size;

adding the new query to the inverse query engine cache; and

adding a new query size to the cache size, the new query size identifying a size of the new query added to the inverse query engine cache.

27. (To be Amended) A method for maintaining an inverse query engine cache, comprising:

determining when inverse query engine cache usage is approaching a cache usage capacity, wherein the cache usage capacity is determined by a size of a filter table

comprising a condition field, a data field, an expiration time field, a filter weight field, and  
a permanent flag field; and

removing one or more filters from the inverse query engine cache when the cache  
is approaching the cache capacity until the cache usage is reduced to an optimal cache  
usage,

wherein removing one or more filters comprises at least one of expiring or  
trimming the cache;

wherein an inverse query engine cache comprises at least one of an add filter  
module, a remove filter module, a matcher, a maintainer, a filter table, a most recently  
used list, or an expiration list.